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EXAMINER

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MARTIN GUTFLEISCH and MARTIN SCHMITT-LEWEN

Appeal 2008-2828
Application 09/923,696
Technology Center 2800

Decided: September 30, 2008

Before CHARLES F. WARREN, TERRY J. OWENS, and
THOMAS A. WALTZ, *Administrative Patent Judges*.

WALTZ, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants seek review under 35 U.S.C. § 134 from the Examiner's rejections of pending claims 1-26 in the Final Office Action, dated October 4, 2004. This Board has jurisdiction under 35 U.S.C. § 6(b). For the

reasons set out below, the rejections are affirmed in part, reversed in part and new grounds for rejection have been entered.

Appellants' invention is directed to a method of clearing re-imageable printing forms using a fluid. Claims 1 and 4 are illustrative and reproduced below:

1. A method for clearing a re-imageable printing form, which comprises treating the printing form with a fluid clearing medium in a non-abrasive manner, irreversibly clearing all image information on a surface of the printing form.
4. A method for clearing a re-imageable printing form, which comprises treating the printing form with a gaseous clearing medium in a non-abrasive manner, irreversibly clearing all image information on a surface of the printing form.

The Examiner relies on the following prior art as evidence of unpatentability of the pending claims:

Nüssel	5,317,970	Jun. 7, 1994
Gydesen	5,644,986	Jul. 8, 1997
Koguchi	6,082,263	Jul. 4, 2000
Shin	6,148,728	Nov. 21, 2000

Appellants seek review of the following rejections:

1. Claims 1-3, 6, 9, 16-18, 21 and 26 stand rejected under 35 U.S.C. § 102(b) as anticipated by Koguchi.
2. Claims 4 and 19 stand rejected under 35 U.S.C. § 103(a) as obvious over Koguchi in view of Nüssel.
3. Claims 5, 15, 20 and 25 stand rejected under 35 U.S.C. § 103(a) as obvious over Koguchi in view of Gydesen.

4. Claim 13 stands rejected under 35 U.S.C. § 103(a) as obvious over Koguchi in view of Nüssel, as applied to claims 4 and 19, and further in view of Shin.

5. Claims 7, 8, 10-12, 14 and 22-24 stand rejected as obvious under Koguchi.

BACKGROUND OF THE INVENTION

As described by Appellants, re-imageable printing forms are used in offset printing. Printing using forms or plates is predicated on the immiscibility of water and grease-based inks. Points or areas on a printing plate or form are processed to put points or areas not to be printed in a hydrophilic state, so that hydrophobic inks will not adhere to those areas after the plate is wetted. Conversely, areas of the plate to be printed are processed to become hydrophobic, otherwise known as lipophilic, so that lipophilic, grease-based inks will adhere. Spec. 1-2.

Re-imageable printing forms have surfaces which are coated or otherwise treated such that points on the surface can be changed between hydrophilic and hydrophobic states. After printing, the plates can be cleaned of residual ink, and the plate surface restored or cleared to a uniform hydrophilic state without any printing information. This restoration or clearing of the surface typically in the prior art was performed using ultraviolet light. Printing plates are coated with a material such as titanium oxide or zinc oxide to provide this ability of selectively and reversibly changing the surface from hydrophilic to hydrophobic. Spec. 2-3.

FINDINGS OF FACT (FF)

The following findings of fact relevant to the rejections under review are made based on a preponderance of evidence on the record:

1. Koguchi teaches clearing residual ink from a re-imageable printing form and then restoring the imaged region to a prior hydrophilic state using active light. Col. 4, ll. 44-50. Plates can be cleared of residual ink by washing using petroleum solvents. Col. 12, ll. 45-47. Exposure to active light converts the photo-thermal convertible material on the surface of the printing plate from a lipophilic to a hydrophilic state. Col. 10, ll. 38-45.

2. Koguchi teaches post-treating a printing plate after exposure to active light, the post-treatment comprising use of a rinse solution containing surfactant, aqueous solutions and the like. Col. 12, ll. 8-14. Such rinse solutions can be applied by wiping with a sponge or absorbent wadding, by dipping the plate, or by use of an automatic coater. Col. 12, ll. 14-19.

3. Nüssel teaches a method of preparing a printing plate for printing which includes transferring organic, oleophilic, ink-receptive particles to portions of the printing plate surface. These particles are oleophilic and thereby mark the areas of the printing plate which are to be inked. Col. 1, ll. 35-44.

4. Nüssel further teaches that the hydrophobic (oleophilic) particles are removed from the surface of the printing plate, subsequent to printing, by conducting an ionized reactive gas to the surface, causing the oleophilic particles to form volatile reaction products. The volatile reaction products are removed by suction. This ionization process erases the printing image, rendering the surface uniformly regenerated. Col. 2, ll. 18-43. The

ionized reactive gas may include reactive oxygen ions and radicals. Col. 2, ll. 50-54.

PRINCIPLES OF LAW

“During examination, ‘claims ... are to be given their broadest reasonable interpretation consistent with the specification, and ... claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art.’” *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004)

“As we stated in *Vitronics*, the specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’ 90 F.3d at 1582.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005)

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987), *cert. denied*, 484 U.S. 827 (1987)

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1734 (2007)

The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3)

the level of ordinary skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966)

“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR*, 127 S. Ct. at 1739.

DISCUSSION

Claim Construction

“Clearing”

Claim 1 is directed to a method for “clearing” a re-imageable printing form. The parties in this appeal imply differing constructions and scope to this term. In this regard, the Specification states,

Following the performance of the printing process, the ink is first washed from the printing form in a washing device, and the printing form is then converted back into the surface-wide hydrophilic state under the renewed effect of UV radiation. The printing image is thus cleared from the printing form which can then undergo an additional imaging process.

Spec. 3, ll. 14-20.

The Specification further states,

Accordingly, the printing form is negatively imaged. After printing, the printing form is first washed of the residual ink and then converted back into the lipophilic state surface-wide by heat treatment, thereby clearing it and readying it for an additional imaging process.

Spec. 4, ll. 5-10

From these descriptions, we determine that one skilled in the art would construe the term “clearing,” consistent with its use in the Specification, as converting back the entire surface of the printing form to a uniform hydrophilic or lipophilic state, after the step of removing residual ink from the surface of the printing plate.

“Non-abrasive”

Claims 4 and 19 are directed to a method of clearing a printing form which uses a gaseous medium to clear image information in a “non-abrasive” manner.

In construing a claim term, we look first to the intrinsic evidence, namely the claims and specification. *Phillips*, 415 F.3d at 1315. However, upon our review of the entire Specification, we do not find any appearance of the term, “non-abrasive,” and neither Appellants nor Examiner point to any such reference. Appellants urge the adoption of a definition from an extrinsic source (Webster’s Dictionary). App. Br. 9-10.

We note that the Specification describes that a re-imageable printing form having a titanium dioxide modification is converted from a hydrophilic to hydrophobic state by shedding hydroxyl (OH) groups and binding with oxygen. Spec. 5. The Specification also describes that, as a result of using oxygen as a gaseous clearing medium, the printing form is converted into a hydrophobic state surface-wide, and the “image information on the surface of the printing form disappears.” Spec. 22. We therefore disagree with Appellants’ offered construction, which precludes removal of any “particles” from the printing plate surface. *See* App. Br. 9.

Accordingly, consistent with Appellants' Specification, we construe the term "non-abrasive" broadly as non-removal or non-abrading of particles of the printing form not otherwise constituting image information.

The Rejections

1. Anticipation by Koguchi

Claims 1-3, 6, 9, 16-18, 21 and 26 stand rejected under 35 U.S.C. § 102(b) as anticipated by Koguchi. In the Final Office Action, the Examiner contended that Koguchi teaches a method of clearing a re-imageable printing form with a fluid clearing medium, and otherwise reads on the claim limitations, at col. 4, ll. 57-61. Ans. 3, *see* FF 1. Appellants contend that the cited reference passage only teaches cleaning ink from the printing form, but that the remaining image information is not cleared until a subsequent step of exposure to UV light, which is not taught in the cited passage. App. Br. 6, *see* FF 1. Appellants further contend that in Koguchi, the term, "clearing" refers solely to removal of ink from the printing form, while the term, "restoring" means erasing image information and returning the printing plate back to a neutral state (i.e., if ink is again applied, no image can be seen). Appellants then contend that, as used in their application, the term "clearing" is synonymous with "restoring", as used in Koguchi, not with Koguchi's use of the term "clearing".

The Examiner contends that the fluid washing step described in the cited passage of Koguchi irreversibly clears all image information *on the outer surface* of the printing form. The Examiner disputes that removable of all image information means more than removal of the ink, as cleaning the ink amounts to "clearing all image information." Ans. 6 [emphasis added].

Upon review of the cited portion of the prior art reference, and in consideration of our construction of the claim term “clearing”, we find Appellants’ argument persuasive. The cited passage of Koguchi describes merely the removal or cleaning of ink, and does not describe converting back the surface of the printing form to a uniform hydrophilic or hydrophobic state, as would have been understood by one skilled in the art.

Accordingly, since the Examiner has not cited a disclosure from the prior art that teaches “clearing” image information by a fluid clearing medium, as we have construed “clearing,” the Examiner’s rejection of claims 1-3, 6, 9, 16-18, 21 and 26 as anticipated by Koguchi is not sustained.

2. *Obviousness over Koguchi in view of Nüssel*

Claims 4 and 19 stand rejected as obvious over Koguchi in view of Nüssel. Independent claim 4 is directed to a method of clearing, as construed herein, a printing form using a gaseous clearing medium. Claim 19 depends on claim 4, and is not argued separately. It therefore stands or falls together with claim 4. 37 C.F.R. § 41.37(c)(1)(vii). The Examiner contends Nüssel teaches the limitations of claim 4 of clearing a re-imageable printing form using a gaseous clearing medium, and use of this clearing medium in the process of Koguchi would have been obvious. Ans. 3.

Appellants contend that the method taught in Nüssel, which uses a plasma or ionized reactive gas, is abrasive, in that it removes particles, and thus does not teach the claim limitation of a method of treating the printing form in a *non-abrasive* manner. App. Br. 9-10.

We do not find Appellants’ argument persuasive. In Nüssel, image information is disposed on a printing form in a different manner than the present invention, namely, by the transfer of oleophilic organic particles to

the designated areas of the printing plate surface, making those areas hydrophobic and ink-receptive. FF 3. After printing, the clearing method described in Nüssel uses a plasma, such as ionized oxygen, to remove the residual hydrophobic particles without damaging or attacking the surface of the printing form. FF 4. In light of our construction of the term “non-abrasive”, we determine that the method taught in Nüssel is non-abrasive. Accordingly, we determine that the Appellants have not shown the Examiner reversibly erred, and the rejection is sustained.

3. *Obviousness over Koguchi in view of Gydesen*

Claims 5, 15, 20 and 25 are rejected as obvious over Koguchi in view of Gydesen. Claims 5 and 15 depend on claim 1, while claims 20 and 25 depend on claim 16, both of which were subject to the first rejection which we did not sustain. The Examiner relies on the teachings of Gydesen for the claim elements of the use of ultrasound in claims 5 and 20, and the step of treating the printing form in claims 15 and 25. Ans. 4. Gydesen is not relied upon to teach the element of clearing the printing form of all image information by use of a fluid clearing medium, as claimed in claims 1 and 16. Therefore, we determine that the primary and secondary references together do not teach all the elements of the claimed invention, namely that of clearing all image information by a fluid clearing medium, and thus the Appellants have shown the Examiner reversibly erred in maintaining the rejection.

4. *Obviousness over Koguchi in view of Nüssel and Shin*

Claim 13 stands rejected as obvious over Koguchi in view of Nüssel and further in view of Shin. Claim 13 depends on claim 4, adding a step of

removing the printing form from the influence of light during the treatment with the gaseous clearing medium.

The Examiner contends Shin teaches a method for cleaning a printing plate which includes the step of removing the printing plate from the influence of light during the treatment of the printing plate. Ans. 4.

Appellants do not contest the teaching of Shin, but argue the patentability of claim 13 solely on its dependency on claim 4. Since we have sustained the rejection of claim 4, Appellants' argument is not persuasive, and the rejection of claim 13 is sustained.

5. Obviousness over Koguchi

Claims 7, 8, 10-12, 14 and 22-24 stand rejected as obvious over Koguchi. Appellants argue that these rejected claims are dependent on either claim 1 or 16, and those parent claims should be allowable, as argued in the first rejection. As we have declined to sustain the first ground of rejection, Appellants' argument is persuasive since the Examiner has not identified any further reasoning to support an obviousness rejection over Koguchi. Therefore, this rejection is also not sustained.

NEW GROUNDS OF REJECTION

The first ground of rejection, based on anticipation over Koguchi, was not sustained because the Examiner relied on teachings therein that did not disclose or describe "clearing" a printing form by use of a fluid clearing medium, as we have construed the term "clearing." Likewise, the third, fourth and fifth grounds of rejection based on obviousness were not sustained, since the Examiner relied on Koguchi as the primary reference for the same teachings of "clearing" the re-imageable printing form.

However, in our review of Koguchi, we find it does teach clearing re-imageable printing forms using a fluid clearing medium. As noted by Appellants, Koguchi teaches predominantly restoring (i.e., “clearing”, as used in the present Application) a printing form using active light, Ans. 7.

However, Koguchi teaches additional methods for further treating a printing form, beyond that of active light. Koguchi teaches supplementing the use of light with further treatment using an aqueous rinse solution, which corresponds to the claimed “fluid clearing medium.” FF 2.

Since we have determined Koguchi teaches the element of clearing with a fluid medium, we enter a new ground of rejection based on anticipation by the same reference because our factual findings were not previously raised in this appeal record. Additionally, Appellants have not yet had an opportunity to respond to these findings.

In light of these further findings of fact, the following new grounds of rejection are entered.

Claims 1-3, 6, 9, 16-18, 21 and 26

Claims 1-3, 6, 9, 16-18, 21 and 26 are rejected under 35 U.S.C. § 102(b) as anticipated by Koguchi.

As to claims 1 and 3, Koguchi teaches a method of clearing all image information from a re-imageable printing form, comprising treating the printing form with a fluid clearing medium (water) in a non-abrasive manner, irreversibly clearing all image information on a surface of the printing form. *See* FF 2.

As to claim 2, Koguchi teaches a method for clearing a re-imageable printing form, comprising cleaning the printing form of ink, col. 12, ll. 42-50, and subsequently treating the cleaned printing form with a fluid clearing

medium in a non-abrasive manner, irreversibly clearing all image information on a surface of the printing form. *See* FF 2.

As to claim 6, Koguchi further teaches exposing the printing form, cleared of any prior image information, to a heat source to record a new image on the printing form surface. Col. 10, l. 64 - col. 11, l. 17.

As to claim 9, Koguchi teaches using aqueous (water-based) solutions in clearing the printing form. FF 2.

As to claims 16 – 18 and 26, which depend on claim 1, Koguchi further teaches a device for applying fluid clearing medium to the printing form in a non-abrasive manner, namely, a sponge or absorbent wadding. *See* col. 12, ll. 8-16 and col. 12, l. 62 – col. 13, l. 5.

As to claim 21, which depends on claim 16, Koguchi further teaches a heating device, namely a thermal recording head, col. 11, ll. 9-14, or an infrared laser, col. 11, ll. 25-30, for heating the surface of the printing form.

Claims 5, 15, 20 and 25

Claims 5, 15, 20 and 25 are rejected under 35 U.S.C. § 103(a) as obvious over Koguchi in view of Gydesen. Claims 5 and 15 depend on claim 1, the elements of which are disclosed in Koguchi, as discussed under the new grounds of rejection above, *see* FF 2. The additional elements under claims 5 and 15, i.e., additional ultrasonic cleaning and cleaning outside the printing machine, respectively, are taught in Gydesen (claim 4) or are conventional in the art (Ans. 4),

Claims 20 and 25 depend on claim 16, the elements of which are disclosed in Koguchi, as discussed under the new ground of rejection above, *see* FF 2. The additional elements under claims 20 and 25, i.e., a device

comprising an ultrasonic source and a device for partitioning the printing form against light, respectively, are also taught in Gydesen (Ans. 4).

Gydesen also teaches the improved clearing resulting from use of ultrasonics and from portioning against light (Ans. 4). Therefore, it would have been obvious to one skilled in the art at the time of the invention to improve the method and system of Koguchi with the disclosures in Gydesen according to known methods to yield predictable results. *KSR*, 127 S.Ct. at 1739.

Claims 7, 8, 14, 22 and 23

Claims 7, 8, 14, 22, and 23 are rejected under 35 U.S.C. § 103(a) as obvious over Koguchi. As noted by Examiner, the use of a hot-air blower and the step of exposing the printing form to higher atmospheric pressure or oxygen gas during treatment are improvements well known in the art. Ans. 5. Appellants do not dispute or raise any argument against this statement. Claims 7 and 8 depend on claim 6, the elements of which are taught explicitly in Koguchi, FF 2.

It would have been obvious to one skilled in the art at the time of the invention to improve the system and method of Koguchi by employing well-known elements or steps, according to known methods to yield predictable results. *KSR*, 127 S. Ct. at 1739.

Claims 10-12 and 24

Claims 10-12 and 24 are rejected under 35 U.S.C. § 103(a) as obvious over Koguchi. Claims 10-12 depend on claim 1 and claim 24 on claim 16, the elements of each which are taught by Koguchi, FF 2. In regards to claims 10 and 11, the additional element of an acid or alkali would have been found by one skilled in the art by routine experimentation, as found by

the Examiner, Ans. 5. Appellants do not dispute the Examiner's statement. In regards to claims 12 and 24, the use of sprayers for applying water or aqueous solutions is well known to both those skilled in the art, as found by the Examiner, Ans. 5, and to general laypersons as well, of which we judicially take note. Appellants again have not disputed the Examiner's finding.

It would have been obvious to one skilled in the art at the time of the invention to improve the teachings of Koguchi with routine experimentation or well-known sprayers, according to known methods to yield predictable results. *KSR*, 127 S. Ct. at 1739.

CONCLUSION

From the foregoing discussion, the summary of the rejections is as follows:

1. The rejection of claims 1-3, 6, 9, 16-18, 21, and 26 under § 102(b) over Koguchi is reversed, and a new ground of rejection for these claims is entered under 35 U.S.C. § 102(b) as anticipated by Koguchi.
2. The rejection of claims 7, 8, 10-12, 14, and 22-24 under § 103(a) over Koguchi is reversed, and a new ground of rejection for these claims are entered under 35 U.S.C. § 103(a) as obvious over Koguchi.
3. The rejection of claims 5, 15, 20 and 25 is reversed, and new grounds for rejection are entered for these claims under 35 U.S.C. § 103(a) as obvious over Koguchi in view of Gydesen.
4. The rejections of claims 4, 13 and 19 are sustained.

TIME PERIOD FOR RESPONSE

Regarding the affirmed rejections, 37 C.F.R. § 41.52(a)(1) provides “[a]ppellant may file a single request for rehearing within two months from the date of the original decision of the Board.

In addition to affirming the Examiner’s rejections of one or more claims, this decision contains new grounds of rejection pursuant to 37 C.F.R. § 41.50(b) (July 1, 2007). 37 C.F.R. § 41.50(b) provides “[a] new grounds of rejection pursuant to this paragraph shall not be considered final for judicial review.”

37 C.F.R. § 41.50(b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

(1) *Reopen prosecution*. Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner....

(2) *Request rehearing*. Request that the proceeding be reheard under § 41.52 by the Board upon the same record....

Should the Appellants elect to prosecute further before the Examiner pursuant to 37 C.F.R. § 41.50(b)(1), in order to preserve the right to seek review under 35 U.S.C. §§ 141 or 145 with respect to the affirmed rejections, the effective date of the affirmance is deferred until conclusion of the prosecution before the Examiner unless, as a mere incident to the limited prosecution, the affirmed rejection is overcome.

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If Appellants elect prosecution before the Examiner and this does not result in allowance of the application, abandonment or a second appeal, this case should be returned to the Board of Patent Appeals and Interferences for final action on the affirmed rejection, including any timely request for rehearing thereof.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART
37 C.F.R. § 41.50(b)

tf/ljs

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